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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,428	06/24/2003	Bo Shen	200208570-1	4318

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HEWLETT-PACKARD DEVELOPMENT COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

FINDLEY, CHRISTOPHER G

ART UNIT	PAPER NUMBER
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2482

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/603,428	Applicant(s) SHEN, BO	
	Examiner CHRISTOPHER FINDLEY	Art Unit 2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-27 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-27 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Reopening Prosecution After Board Decision

Pursuant to the decision of the Board of Appeals on 25 May 2011, the examiner had specific knowledge of the existence of prior art which indicate non-patentability of claims which the examiner was reversed. Rejections where the examiner was affirmed still remain.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Claims 1 and 10 set forth a method and "computer useable medium," respectively. However, as decided by the Board of Patent Appeals and Interferences, because no physical limitations are present in the claims, there is nothing to preclude an interpretation that the method steps could be performed entirely mentally. The United States Patent and Trademark Office (USPTO) is obliged to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the USPTO. *See In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow). First, none of these steps is tied to a particular machine, and none results in the transformation of a particular article to a different state or thing. Second, although the machine-or-transformation test is not the sole test for patent eligibility, the Board finds that the claimed invention is directed to an abstract idea. Claims 2-9 and 11-18 are dependent upon claims 1 and 10, and therefore also stand as rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-7, 10-16, and 19-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al. (US 7292602 B1, hereinafter referred to as “Liu”).

Re **claim 1**, Liu discloses a method for servicing streaming media comprising: receiving said streaming media (Liu: Fig. 3, step 102, bit streams received); determining an allocation of available processing and memory resources (Liu: Fig. 3, step 104, available channel bandwidth determined with respect to minimum requirements); performing a multi-stage service on said streaming media (Liu: column 6, line 63-coumn 7, line 15, when necessary a bit rate converter apparatus transcodes video data in one or more of the incoming bitstreams); and caching an intermediate result from one of the stages of said multi-stage process, said result selected according to said available processing and memory resources (Liu: Fig. 2, the bit rate converter 34 feeds into buffers 44, thereby storing the intermediate result before the streams are scheduled for transmission).

Re **claim 2**, Liu discloses that said service is a computing-intensive media services (Liu: column 12, lines 5-29, transcoding such as bit rate conversion may be performed, wherein bit rate alteration may include computing-intensive procedures such as partial decoding, re-quantization, and VLC encoding).

Re **claim 3**, Liu discloses that said resources are selected from the group consisting of a transcoder, a first cache, and a second cache (Liu: column 6, line 63-coumn 7, line 15, when necessary a bit rate converter apparatus transcodes video data in one or more of the incoming bitstreams; Fig. 2, the bit rate converter 34 feeds into multiple buffers 44).

Re **claim 4**, Liu discloses that said service comprises transcoding functions (Liu: column 12, lines 5-29, transcoding such as bit rate conversion may be performed).

Re **claim 5**, Liu discloses that said result is a final transcoding result (Liu: column 6, line 63-coumn 7, line 15, when necessary a bit rate converter apparatus transcodes video data in one or more of

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the incoming bitstreams; Fig. 2, the bit rate converter 34 feeds into buffers 44, thereby storing the transcoding result before the streams are scheduled for transmission).

Re **claim 6**, Liu discloses that said transcoding functions are selected from the group consisting of frame rate reduction, bit rate reduction and resolution reduction (Liu: column 12, lines 5-29, transcoding such as bit rate conversion may be performed, wherein bit rate alteration may include computing-intensive procedures such as partial decoding, re-quantization, and VLC encoding as well as resolution reduction).

Re **claim 7**, Liu discloses that said caching comprises caching intermediate transcoding results of an output stream of said streaming media provided a target bit rate of said output stream of said streaming media is greater than a data caching rate of said streaming media (Liu: column 9, line 65-column 10, line 4, downstream decoder buffer levels are modeled so that a bandwidth arbitrator may be configured to maintain buffer occupancy at particular levels).

Claim 10 recites the corresponding computer readable medium thereon stored a computer program directed to steps for executing the method of claim 1 and, therefore, has been analyzed and rejected with respect to claim 1 above.

Claim 11 has been analyzed and rejected with respect to claim 2 above.

Claim 12 has been analyzed and rejected with respect to claim 3 above.

Claim 13 has been analyzed and rejected with respect to claim 4 above.

Claim 14 has been analyzed and rejected with respect to claim 5 above.

Claim 15 has been analyzed and rejected with respect to claim 6 above.

Claim 16 has been analyzed and rejected with respect to claim 7 above.

Claim 19 recites the corresponding apparatus for implementing the method of claim 1 and, therefore, has been analyzed and rejected with respect to claim 1 above.

Claim 20 has been analyzed and rejected with respect to claim 2 above.

Claim 21 has been analyzed and rejected with respect to claim 3 above.

Re **claim 22**, Liu discloses that said intermediate transcoding result is selected from any of the respective stages of said multistage service (Liu: column 3, lines 7-11, available bandwidth determined

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before or after transcoding; column 12, lines 13-17, bit rate alteration may occur on compressed video data, uncompressed video data, or at any partial compression status therebetween).

Re **claim 23**, Liu discloses that said result is selected to optimize the balance of processing and memory resources used in providing said service (Liu: column 2, lines 51-67).

Claim 24 has been analyzed and rejected with respect to claim 6 above.

Claim 25 has been analyzed and rejected with respect to claim 7 above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 8, 9, 17, 18, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (US 7292602 B1) in view of Yoo et al. (US 6999512 B2, hereinafter referred to as "Yoo").**

Re **claim 8**, Liu does not specifically disclose that said intermediate transcoding results comprise meta data that is selected from the group consisting of pixel, block, macroblock, picture and sequence. However, Yoo discloses a transcoding method and apparatus, wherein intermediate transcoding results comprise meta data that is selected from the group consisting of block (Yoo: Fig. 4, block 412), macroblock (Yoo: Fig. 4, block 410), picture (Yoo: Fig. 4, block 406) and sequence (Yoo: Fig. 4, block 402). Yoo further discloses partially decoding a macroblock MB to the DCT domain (Yoo: Fig. 4, block 412), thus indicating pixel data is processed.

Since both Yoo and Liu relate to transcoding digital video bitstreams, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the network adaptation capabilities of Liu with the transcoding system of Yoo in order to provide a transmission system capable of handling

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multiple incoming streams and minimizing rate reduction by efficiently allocating available bandwidth among the multiple incoming streams (Liu: column 2, lines 45-67).

Re **claim 9**, Liu does not specifically disclose that said transcoding functions are performed by resources selected from the group that consist of motion vector generator, bit rate controller and parser. However, Yoo discloses that transcoding functions are performed by resources selected from the group that consist of bit rate controller (Yoo: Fig. 4, block 420 "bit_rate") and parser (Yoo: Fig. 4, blocks 402,404, 406,408, 410, and 412), and a motion vector generator (Yoo: Fig. 4, blocks 410 and 426, MV parsed from MB header; column 6, lines 59-62, MV is generated).

Since both Yoo and Liu relate to transcoding digital video bitstreams, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the network adaptation capabilities of Liu with the transcoding system of Yoo in order to provide a transmission system capable of handling multiple incoming streams and minimizing rate reduction by efficiently allocating available bandwidth among the multiple incoming streams (Liu: column 2, lines 45-67).

Claim 17 has been analyzed and rejected with respect to claim 8 above.

Claim 18 has been analyzed and rejected with respect to claim 9 above.

Claim 26 has been analyzed and rejected with respect to claim 8 above.

Claim 27 has been analyzed and rejected with respect to claim 9 above.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER FINDLEY whose telephone number is (571)270-1199. The examiner can normally be reached on Monday-Friday (8:30 AM-5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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